



REPORT

For

Dallas Semiconductor Corp.

4401 S. Beltwood Parkway
Dallas, TX
75244-3292
U.S.A

Date: March 2, 2007
Report No.: 8680-1
Revision No.: 0
Project No.: 8680
Equipment: Controllers
Model No.: DS1921G, DS1922L, DS1922T, DS1923



ONE STOP GLOBAL CERTIFICATION SOLUTIONS



3133-20800 Westminster Hwy, Richmond, BC
V6V 2W3, Canada
Phone: 604-247-0444
Fax: 604-247-0442
www.labtestcert.com

TABLE OF CONTENTS

Section	Page
REPORT	3
TEST SECTION:	5
PICTURES:	10

TEST REPORT	
Report reference No.....	: 8680-1
Date of issue.....	: March 2, 2007
Testing laboratory.....	: LabTest Certification Inc.
Address.....	: 3133 – 20800 Westminster Hwy., Richmond, BC.
Testing location	: as above
Applicant.....	: Dallas Semiconductors Corp.
Address.....	: 4401 S. Beltwood Parkway Dallas, TX 75244-3292 U.S.A
Standard	: IS EN 60529/A1:2003 – Degrees of Protection Provided by Enclosures (IP code)
Test Report Form No.	: 8680-1
Number of pages (Report)	: 11
Number of pages (Attachments).....	: None
Compiled by.....: 	Approved by.....: 
(+ signature) _____ Sandeep Bhayana	(+ signature) _____ Kavinder Dhillon

Type of test object : Semiconductors
Model and/or type reference..... : DS1921G, DS1922L, DS1922T, DS1923
Rating(s) : IP56
Trademark : N/A

Responsible Manufacturer : N/A
Factory Locations : N/A

Test item particulars:
Connection to the supply : N/A
Operating condition : N/A
Equipment mobility : N/A
Protection class : N/A
Operating environment : N/A

Possible test case verdicts:	
- test case does not apply to the test object .. :	N/A-Not Applicable
- test object does meet the requirement..... :	P-Pass
- test object does not meet the requirement.. :	F-Fail



Attachments:
None

General remarks:
"(see remark #)" refers to a remark appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a period is used as the decimal separator.
The test results presented in this report relate only to the object tested.
This report shall not be reproduced except in full without the written approval of the testing laboratory.

Test Section

Test No.	Tests	EN 60529:1992 (Clauses)	Verdict
1	Dust Test- IP5X	13.4	P
2	Water Spray Test with 12.5mm nozzle- IPX6	14.2.6	P

IP5X-Dust Test:

Project No.:	<u>8680</u>	Date:	<u>Feb. 19, 2007</u>
Equipment ID#:	<u>113</u>	File No.:	<u>8680</u>
Model No(s):	<u>DS1921G, DS1922L, DS1922T, DS1923</u>		
Serial No(s):	<u>N/A</u>	Sample No.:	<u>354444,354447,354450,354451</u>
Tested By:	<u>Sandeep Bhayana</u> Print	 Signature	
Reviewed by:	<u>Kavinder Dhillon</u> Print	 Signature	

METHOD
(IS EN 60529/A1:2003)
(Clause 13.4)

13.4 Dust test for first characteristic numerals 5 and 6

The test is made using a dust chamber incorporating the basic principles shown in Figure 2 whereby the powder circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50 µm and the nominal width of a gap between wires 75 µm. The amount of talcum powder to be used is 2 kg per cubic metre of the test chamber volume. It shall not have been used for more than 20 tests.

NOTE Health and safety regulations should be observed in selecting the type of talcum powder and its use.

Enclosures are of necessity in one of two categories:

Category 1: Enclosures where the normal working cycle of the equipment causes reductions in air pressure within the enclosure below that of the surrounding air, e.g., due to thermal cycling effects.

Category 2: Enclosures where no pressure difference relative to the surrounding air is present.

Category 2 enclosures:

The enclosure under test is supported in its normal operating position inside the test chamber, but is not connected to a vacuum pump. Any drain-hole normally open shall be left open for the duration of the test. The test shall be continued for a period of 8 h.



13.5.2 Acceptance conditions for first characteristic numeral 5

The protection is satisfactory if, on inspection, talcum powder has not accumulated in a quantity or location such that, as with any other kind of dust, it could interfere with the correct operation of the equipment or impair safety. Except for special cases to be clearly specified in the relevant product standard, no dust shall deposit where it could lead to tracking along the creepage distances.

Observation: No dust observed inside the controllers.

Final Result: P

IPX6-Water Spray Test:

Project No.:	<u>8680</u>	Date:	<u>Feb.19,2007</u>
Equipment ID#:	<u>139</u>	File No.:	<u>8680</u>
Model No(s):	<u>DS1921G, DS1922L, DS1922T, DS1923</u>		
Serial No(s):	<u>N/A</u>	Sample No.:	<u>354444,354447,354450,354451</u>
Tested By:	<u>Sandeep Bhayana</u> Print		 Signature
Reviewed by:	<u>Kavinder Dhillon</u>		

METHOD
(IS EN 60529/A1:2003)
(Clause 14.2.6)

**14.2.6 Test for second characteristic numeral 6
with the 12,5 mm nozzle**

The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as shown in Figure 6.

The conditions to be observed are as follows:

- internal diameter of the nozzle: 12,5 mm;
- delivery rate: 100 l/min \pm 5 %;
- water pressure: to be adjusted to achieve the specified delivery rate;

-
- core of the substantial stream: circle of approximately 120 mm diameter at 2,5 m distance from nozzle;
 - test duration per square metre of enclosure surface area likely to be sprayed: 1 min;
 - minimum test duration: 3 min;
 - distance from nozzle to enclosure surface: between 2,5 m and 3 m.
-

14.3 Acceptance conditions

After testing in accordance with the appropriate requirements of **14.2.1** to **14.2.8** the enclosure shall be inspected for ingress of water.

It is the responsibility of the relevant Technical Committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test, if any.

In general, if any water has entered, it shall not:

- be sufficient to interfere with the correct operation of the equipment or impair safety;
- deposit on insulation parts where it could lead to tracking along the creepage distances;
- reach live parts or windings not designed to operate when wet;
- accumulate near the cable end or enter the cable if any.

If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment.

For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.

Observation: No ingress of water observed inside the controllers.

Final Result: P



Picture-1. – Dust Test Setup (IP5X)



Picture-2. – Water Spray Test Setup (IPX6)

END OF TEST REPORT